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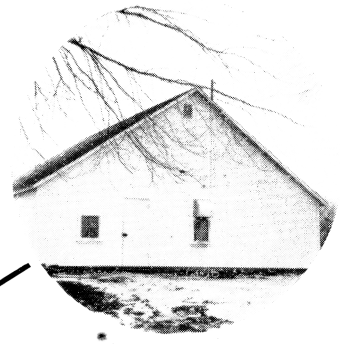

Kilowatts cut poultry chores

Electrical poultry equipment used correctly can save you time, effort and money.

by S. S. DeForest and Harold Beaty

KILOWATTS can save you time and effort around the poultry house. Electricity can do a lot of time-consuming work in producing eggs.

Two Iowa farmers cooperating with Iowa State College and the Iowa Utilities Association in a Rural Electric Demonstration Farm Program have found how to save both time and labor. They did it by putting electricity to work for them.

The farmers are Clarence F. Hotz of Fort Dodge and George Hora of Washington. Hotz has recently enlarged and insulated his old poultry house. Hora built a new, insulated poultry house.

Both agree that proper insulation and ventilation save a lot of labor in keeping the poultry house dry and the eggs clean. A well insulated house retains heat from the birds. A properly ventilated house stays dry since excess moisture is carried out. And a dry poultry house means fewer dirty eggs and less labor in replacing litter.

The Hotz and Hora poultry houses have about the same insulation. Both have between 4 and 6 inches of ground corncobs in the walls and ceiling. But they differ in types of ventilation.

Hora Poultry House

The Hora ventilation system is a commercial forced-air type with two air ducts—one above the other. The ducts are located at the ceiling and run lengthwise through the center of the building.

Foul air is sucked into holes in the upper duct by an electric fan in one end. Fresh air enters the opposite end of the lower duct. This air drops into the poultry house through holes in the bottom of the duct. A thermostatic switch turns the fan on or off automatically as ventilation is needed.

During a 2-week test run by college agricultural engineers last winter, this system provided excellent control of temperature and moisture. Outside temperatures varied between 15° and 52° F. The outside relative humidity ranged between 50 and 90 percent. But inside temperatures were held within 5 degrees of the thermostatic setting—40 to 50 degrees. The relative humidity held between 75 and 90 percent at the roosts.

The electricity used and the operating cost of Hora's ventilation system last winter were as follows:

Month	KWH consumption*	Av. cost per KWH	Monthly cost
Oct.	128	$0.036	$4.62
Nov.	116	0.031	3.60
Dec.	142	0.028	3.98
Jan.	121	0.024	2.90
Feb.	61	0.029	1.77
Mar.	57	0.029	1.65
Apr.	50	0.040	2.00

* The KWH consumption was higher for the months prior to February because the holes in the lower duct were partially closed. Opening the holes allowed the fan to change the air in the house more rapidly, and the fan didn't have to run

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as long. In October and part of November the fan was used for cooling the poultry house. During warm days it ran almost continuously. Opening windows and doors on warm days solved the problem.

Hora had to clean the dropping pits twice during the winter. But he didn't have to change the litter at all.

Hotz Poultry House

Hotz uses an inexpensive forced air ventilating system which sucks foul air off the floor. Fresh air comes in through four openings near the ceiling—two on the north wall, one on the east and one on the west walls.

Complete testing of this system isn't finished. But the temperature and humidity seem to have been held fairly constant. The house was kept dry enough so it wasn't necessary to change the litter last winter. The thermostatically controlled motor used about 21 KWH per week.

Agricultural engineers at Cornell University tested a similar ventilation system in the winter of 1945-46. There, the lowest average weekly temperature inside an uninsulated house was 29 degrees. The average temperature outside was 13 degrees at that time. Average inside temperatures were 12 to 14 degrees above those outside even during the coldest winter periods.

The 12-inch fan used for 500 laying birds used about 2 KWH a day and totaled 286 KWH for the season. At a cost of 3 cents per KWH, that's a total season cost of $8.58. Here again, litter didn't need to be changed.

Piped Water

Hotz found that having water piped to the poultry house saves time and work, too.

Before he remodeled his poultry house, he lugged water by hand. He didn't have far to walk either—only about 97 feet. But he had to make six trips a day. That made 585 feet, or 40 miles a year to deliver a total of 32 tons of water. It took time, too.

Hotz figures he saves $18 worth of labor every year now by using two automatic, electrically heated waterers.

That doesn't include the return from any increase in egg production. Other college experiments indicate you get a boost in egg production by keeping water before the chickens at all times. And the insulation helped save electricity, too. The water didn't need to be heated because the temperature in the house never dropped below freezing.

Hora too installed water heating equipment for his poultry waterers but found he didn't need it. The insulation kept the temperatures in his poultry house above freezing.

"Heating Tape"

Pressure water systems can be used during the cold months in uninsulated poultry houses. Commercial heating cable or tape can be wrapped around the pipes and valves. If the temperature falls below freezing, electricity is turned on by a thermostat.

Tape and switch will cost you about $10. And considering the labor you can save by not having to carry water, the investment seems worthwhile.

We can't say just what the cost of operation would be. Things to consider are: the length of pipe to be heated, amount of water consumed, outside temperature and insulation—all would affect the amount of electricity needed.

13-Hour Day

Both the Hotz and Hora poultry houses are equipped with automatically controlled lights set for a 13-hour day. The total electrical consumption for lights in the Hotz poultry house was 282 KWH, and the maximum consumption occurred during January. The Hora poultry house used a total of 171 KWH for lights, and the high consumption month was December. The operation cost for the lights in the Hotz and Hora poultry houses for one season was $9.11 and $5.05, respectively.

Electricity is a servant. It can take some of the labor out of your poultry chores. It can help keep your chickens in a dry, well-ventilated house where water is available at all times and where lights keep the working day 13 hours long.

Along with good feeding and management, that means higher egg production—and more money in your pocket.

1950 OUTLOOK ISSUE COMING NEXT MONTH

IOWA FARMERS can plan on another good year—though many incomes will be quite a bit less than in 1949. Net farm income will be about three-fourths of the 1946-49 level.

Signs point to another year of active business though slightly below the past 2 years. The last half of 1950 may be below the first. Total income of workers will continue high compared with pre-war income. Profit prospects for business are favorable. And, a prosperous level of national income means continued good times in the farm belt.

Farm prices will average a little below 1949. Iowa farmers have more livestock to sell but less corn and soybeans. Prices of most things farmers buy will be a little lower—but not much.

A dollar will buy a bit more next year. Consumer prices should show a modest decline. Supplies of food, clothing and other items for family living will be plentiful. "Shopping around" and buying at seasonal sales will stretch your dollar.

For a more complete roundup of what's ahead in 1950, see your January issue of Iowa Farm Science.

Reinbeck Farmer Develops New-Type Corn Picker

A REINBECK farmer, Glenn Stoddard, has developed a new-type corn picker having several desirable features, according to college agricultural engineers.

The picker cuts off the corn and elevates it, tops first, to a long horizontal pair of fluted rollers. Shelled corn losses appear to be much less than with the conventional type of picker.